OBJECTIVE: Treatment of glioblastoma recurrence can have a palliative aim, after considering risks and potential benefits. The aim of this study is to verify the impact of surgery and of palliative adjuvant treatments on survival after recurrence.

METHODS: From January 2002 to June 2008, we treated 76 consecutive patients with recurrent glioblastoma. Treatment was: 18 surgery alone; 28 adjuvant therapy alone; 38 surgery and adjuvant therapy; no treatment. The impact on median overall survival (OS time between recurrence and death/last follow-up) of age, Karnofsky performance scale (KPS), resection extent and adjuvant treatment scheme (Temozolomide alone vs low-dose fractionated radiotherapy vs others) was determined. Survival curves were obtained through the Kaplan-Meier method. Cox proportional-hazards was used for multivariate analyses. Significance was set at p<0.05.

RESULTS: Median OS was 7 months. At univariate analysis, patients with a KPS≥70 had a longer OS (9 months vs 5 months p<0.0001). OS was 6 months for patients treated with surgery alone, 5 months for patients that received no treatment, 8 months for patients treated with chemotherapy alone, 14 months for patients treated with surgery and adjuvant therapy p=0.01. Patients with a KPS<70 were significantly at risk for death - HR 2.8 -p=0.001. Subgroup analysis showed no significant differences between patients receiving gross total or partial tumor resection and among patients receiving different adjuvant therapy schemes. Major surgical morbidity at tumor recurrence occurred in 16 out of 33 patients (48%).

CONCLUSION: It is fundamental, before deciding to operate patients for recurrence, to carefully consider the impact of surgical morbidity on outcome.

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